

THE PRESENT AND FUTURE OF KEC'S OVERSEAS BUSINESS



Kim, Nak-Joo
Managing Director,
Overseas Project Division,
Korea Expressway Corporation
nakjoo.kim@ex.co.kr



Cho, Ju-Ho
Senior Manager,
Overseas Project Division,
Korea Expressway Corporation
m6291@hanmail.net

Abstract: *Since its establishment in 1969, Korea Expressway Corporation (KEC) has created an innovative road culture and the best practices. With rich experience and cutting-edge technologies in the field of road, we have been trying to expand our business abroad ; KEC has established 21 MOUs with 17 nations, dispatched 10experts to 5 nations, donated school supplies such as laptops and sports balls to 2 middle schools in Vietnam and Cambodia, held 14 invitational programs on road and transportation technology for 17 developing countries. Since KEC began overseas business in 2005, KEC has gotten 22 overseas projects. we have the best practices in all the fields of road business [road plan, feasibility study, design, construction, maintenance and operation]. Our goal is to become a global leading road company, providing top-quality expressway services to the world by building upon our assets and expertise.*

Keywords: *KEC, MOU, DISPATCHING EXPERTS, INVITATIONAL TRAINING PROGRAM, overseas projects, road plan, feasibility study, design, construction, maintenance and operation*

1. INTRODUCTION

Since its establishment in 1969, Korea Expressway Corporation (KEC) has created an innovative road culture and the best practices. KEC aims to be a customer-oriented road builder in Korea.

The construction of expressways has increased the cost efficiency of transportation and contributed much to balance national development. By the year of 2010, the total length of expressways will have reached 4,000 kilometers, allowing people to travel in comfort and safety without traffic congestion and improving quality of life and national competitiveness.

Our business does not stay in the domestic area. With rich experience and cutting-edge technologies in the field of road, we are trying to expand our business abroad, especially to developing countries.

We would like to share our best practices with those countries to support the road network development and improve their quality of life. For that purpose, we put an emphasis on development assistance as well as on participation in various road projects.

2. MUTUAL COOPERATION WITH FOREIGN COUNTRIES

KEC is trying to increase international cooperation by MOU (Memorandum of Understanding) with road organizations of many other countries. As of 2009, KEC have established 21 MOUs with 17 nations such as Vietnam, Azerbaijan, Indonesia, Uzbekistan, Cambodia, etc. On the basis of these MOUs, we are sharing road related technology and know-how with them.



Number	Country	Organization	Date
1	Japan	Japan Highway Public Corporation	1994. 11
1	Japan	Honshu-Shikoku Bridge Expressway Company Limited of Japan	2009. 5
2	Indonesia	Jasa Marga	1996. 10
2	Indonesia	Ministry of Public Works	2006. 6
3	U K	Transport Research Laboratory	1996. 10
4	Spain	ENA Infrastructure, S.A	1997. 10
5	Mongolia	Department Of Road	2000. 8
6	New Zealand	Transit New Zealand	2000. 10
7	Australia	VicRoads	2001. 3
8	Vietnam	Institute for Transportation Science and Technology	2003. 10

8	Vietnam	Ministry of Transport	2004. 4
8	Vietnam	Vietnam Expressway Corporation	2005. 12
9	Tanzania	TanRoads	2005. 10
10	Azerbaijan	Road of TransService Department	2006. 5
11	Uzbekistan	Uzabtoyul	2006. 9
12	Cambodia	Ministry of Public Works & Transport	2007. 1
13	Sri Lanka	Road Development Authority	2007. 12
14	Laos	Ministry of Public Works & Transport	2008. 2
15	Bolivia	Adminstration Boliviana de Carreteras	2008. 10
16	U.S.A	American Association of State Highway and Transportation Officials	2008. 11
17	China	Jilin Provincial Expressway Group	2009. 6

3. DISPATCHING EXPERTS

Korea Expressway Corporation has sent experts to various countries not only to enrich human networks for the overseas projects but also to transfer road-related technology for better relationships and joint-development of projects.

Presently, 10 experts of KEC have been dispatched to Indonesia (2), Cambodia (2), Vietnam (3), Sri-Lanka(1), America (2) and KEC is planning to send 2 experts to France and Philippines. They are working as experts and contact point to exchange information and technology in the field of road construction. Furthermore, as for the developing countries, they are assisting the process for Korean Gov's ODA projects.



4. CORPORATE SOCIAL RESPONSIBILITY

4.1 SOCIAL-MINDED GLOBAL ACTIVITIES

Since 2006, KEC has donated laptops, school supplies and sports balls to 2 middle schools in Vietnam and Cambodia. The dispatched experts have visited the schools, donated these supplies and improved their educational environment to efficiently make full use of computer networks twice in one year. Furthermore, it established sisterhood relationships with the schools for continuous support.

In May 2006, Indonesia suffered huge damages from a big earthquake that hit Yogyakarta. This earthquake caused lots of casualties and incurred huge damage to Indonesia in a financial and psychological way. For that reason, KEC gave its utmost to help and support Indonesia by raising funds and providing technical support: “recommendation of repair and reinforcement measure”. This is the first time that KEC made an overseas social contribution. Since then, KEC continuously conducted social contribution activities to international societies like Vietnam, Indonesia, Cambodia, etc.

Sustained growth of a corporation is possible only when sustained development of the global society takes place. KEC will continue to make dedicated social contribution efforts in international society as well as nationally.



4.2 INVITATIONAL TRAINING PROGRAM

KEC has held 14 invitational programs on road and transportation technology for 17 developing countries since 2006, which are supported by KEC and KOICA (Korea International Cooperation Agency). About 180 trainees have gone through these programs so far.

The program is to share KEC's best practices with many countries to support the road network development. It consists of lectures, field trips and cultural tours. The common items of the programs are 'Road Construction', 'Road Management', 'Road Technology', 'Toll Collection System', 'Intelligent Transport System', and many other related programs. KEC has a plan to expand this program to more countries and road authorities to share more knowledge and experience.

The economic growth pattern of Korea as a country that suffered the colonial period is one of the best practices in the world. The most important thing for faster development in developing countries is “how can we develop even faster?” In this respect, KEC is able to provide a more suitable approach to developing road infrastructure as well as technology.



5. Overseas Project

5.1 OVERVIEW

Business areas of KEC comprises of consulting and investment. In the consulting area, KEC has been executing feasibility study, detail design, Construction Management projects funded by ODA (Official Development Assistance by Korean Gov.) and other overseas clients. And we are trying to get other projects funded by Multilateral Development Banks such as Asian Development Bank, World Bank, etc.

Since KEC began overseas business in 2005, KEC has gotten 22 overseas projects in this area until now. In addition, our company is planning to invest in Private Investment Projects issued in various countries.

5.2 MAJOR ON-GOING PROJECTS

5.2.1 DETAILED DESIGN SERVICES FOR HANOI-HAIPHONG EXPRESSWAY PROJECT, VIETNAM

In January 2008, the joint venture led by KEC (consists of KEC, Yooshin, Pyunghwa Engineering, TEDI) made a contract with Vietnam Infrastructure Development and Finance Investment Joint Stock Company (VIDIFI) on detailed design consulting services of the Hanoi~Haiphong expressway project. That was the first time that Korea contractors participated in a Vietnam private expressway project.

The Hanoi~Haiphong expressway links Hanoi City, capital of Vietnam, to Hai-phong City which is one of the biggest industrial cities and a port in Vietnam. In this respect, this project has very important significance, especially in establishing the infrastructure necessary for Vietnam's economic growth.

In 2007, KEC conducted appraisal consulting services for the basic design of the expressway and was highly praised for its own technology. In fact, the reason why many construction and engineering companies are faced with difficulties in Vietnam is that there are many layers of soft and thick soil. However, KEC has accumulated rich experience and practices under such circumstances while constructing more than 3,200km expressways in Korea. Based on the experience obtained while constructing the Seohaean Expressway and the Namhaean Expressway - where a comparable amount of soft soil can be found in Korea, KEC managed to successfully finish the basic design. It is expected that many Korean construction and engineering companies will be able to take charge of more projects through our participation in this project.

Now, the detailed design has been implemented actively in Vietnam and is supposed to be completed by December 2009.





5.2.2 PROJECT FOR PAVEMENT OF SIEM REAP BYPASS ROAD, CAMBODIA

The famous Angkor Wat in Cambodia has been damaged by local traffic and tourists due to the lack of proper detour around the relic. Considering this problem the Cambodia government asked Korea to build a bypass road outside the Angkor Wat. Thus in 2006, 15.1km laterite road was built under the aid of the Korean government. However, the existing laterite pavement was easily harmed by rain and heavy vehicles especially during the monsoon season in Cambodia. In order to make the bypass road sustainable, the Korean government decided to make a second aid overlaying asphalt pavement on laterite. The Korea International Cooperation Agency(KOICA) sponsored the second aid project and KEC's specialist was appointed as the Project Manager after signing the private contract between KOICA and KEC. The two construction companies failed the bid before the commencement of the project influenced as a result of high-soaring oil prices and the worldwide economic recession in 2008. To follow up the construction progress on time, the design and construction of the asphalt pavement had been carried out simultaneously. Once this project is completed, the traffic may be dispersed efficiently contributing to preserve Angkor Wat and gain more income from the tourists consequently. KEC also plans to participate in further bypass road projects in Angkor Wat by KOICA, so that the Korean ring road can be placed around Angkor Wat.



5.3 EXPERTISE AREAS FOR OVERSEAS PROJECT

KEC has constructed and managed 3,200km-long expressways in Korea since 1969 and now we are constructing 1,200 km-long expressways. As a result, we have the best practices in all the fields of road business [road plan, feasibility study, design, construction, maintenance and operation]

KEC's Expertise Areas are Project Management, ITS(Traffic Management System, Electronic Toll Collection System), Value Engineering, Road Maintenance, Private Investment Project Management.

5.3.1 PROJECT MANAGEMENT

Project Management refers to the whole or partial implementation of management in the field of planning, feasibility study, analysis, design, procurement, contract, construction, supervision, evaluation, post-construction management for the project. We are able to carry out effective Technical Management, Construction Management, Time Management, Cost Management, Quality Management, Claim Management because we have accumulated a lot of skills and experience in this area for 40 years.

5.3.2 ITS (TRAFFIC MANAGEMENT SYSTEM, ELECTRONIC TOLL COLLECTION SYSTEM)

On the expressways, we have excellent Intelligent Transportation Systems (ITS). We have installed the Traffic Management Systems in the right-of-way of expressways. Through these systems, we collect traffic data from vehicle detectors and CCTVs. The collected data is processed at the Traffic Information Center, and then the traffic information is disseminated at real time through various ways such as variable message signs, internet, mobile phone, car navigation system, etc. Together with well engineered expressways, this system maximizes the traffic capacity and also minimizes traffic accidents.



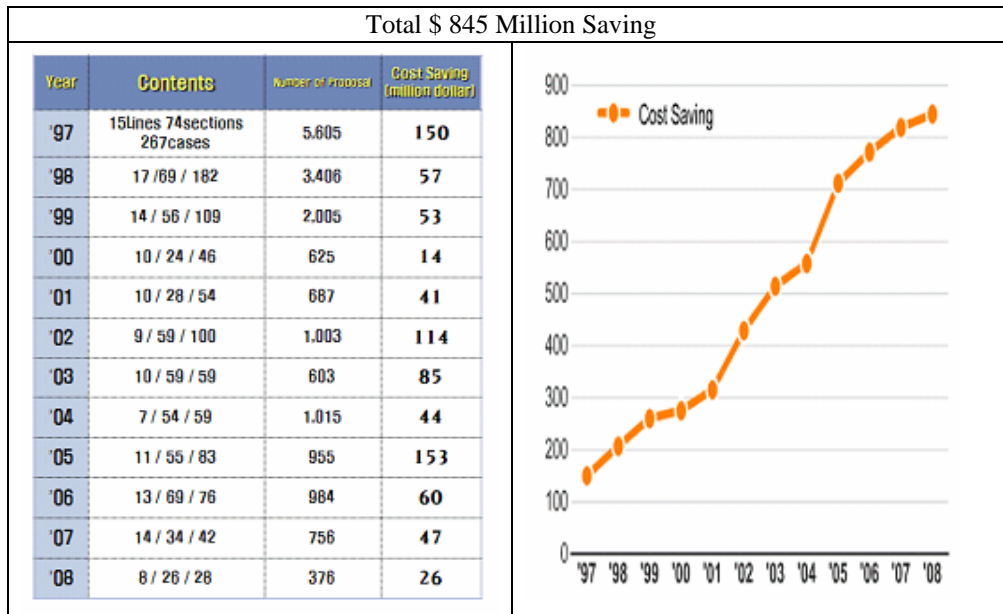
To relieve the traffic congestion by toll gates on the road, our company has converted an existing toll-collecting system into a new system. We call it the Hi-Pass System, non-stop toll collection system. For this system, we developed and adopted an Infrared and Radio Frequency combination system. This system allows 1,800 vehicles per hour per lane to pass through the tollgate. It is operable at a vehicle speed of up to 160 kilometers per hour. Hi-pass system is operating in 600 lanes on all the toll gates (262) nationwide. For reference, Malfunction percentage in this system has fallen from 0.1%.



5.3.3 VALUE ENGINEERING

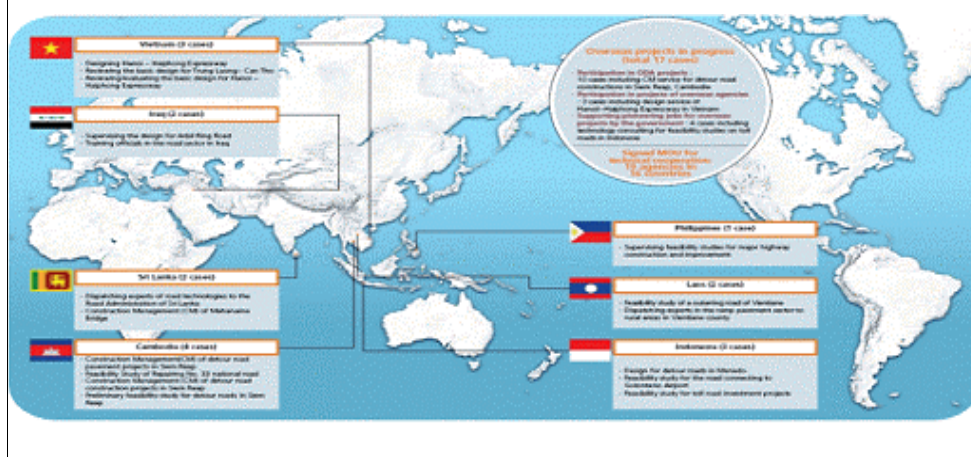
Value Engineering (VE) is a systematic method to improve the “value” of goods or products and services by reviewing of functions. Value, as defined, is the ratio of function to cost. Value can therefore be increased by either improving the function or reducing the cost. Value Engineering has applications in various areas: manufacturing, health care, construction, transportation and many more areas. We can improve functions or minimize costs during the whole life cycle from planning to maintenance of the expressways.

■ Accomplishments in Korea



■ Accomplishments Overseas

- 2006 Yr** - Mahanama Bridge in Sri Lanka
 - Siem Reap Bypass Road in Cambodia
 - Circular Link Highway(Mosul-Kirkuk) in Erbil, Iraq
2007 Yr - National Roads in the Philippines, Vietnam
2008 Yr - Vientiane province in Laos, Vietnam, Cambodia

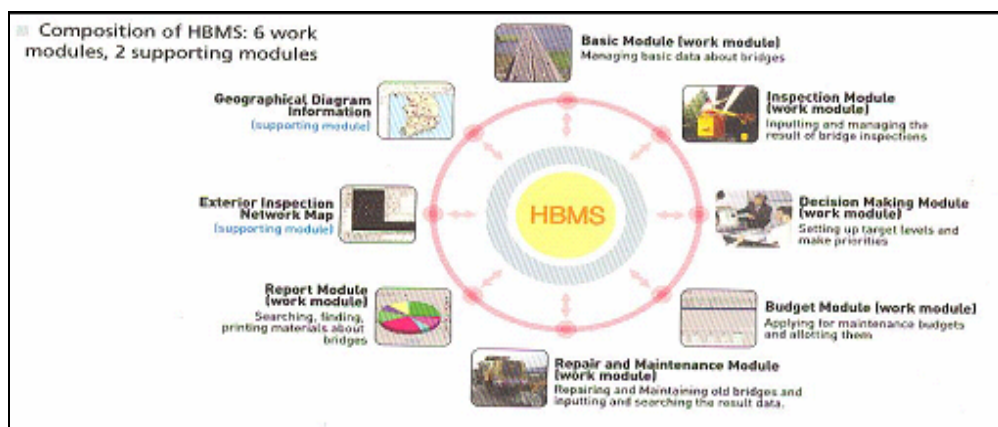


5.3.4 ROAD MAINTENANCE

KEC is doing its best for customers to use all the expressways more safely, comfortably and faster. To reach this goal, we developed and operated many kinds of solutions such as HBMS (Highway Bridge Management System), HPMS (Highway Pavement Management System), DMS (Disaster Management System), HIS (High-tech Inspection System), RFS (Road Facilities for Safety), etc.

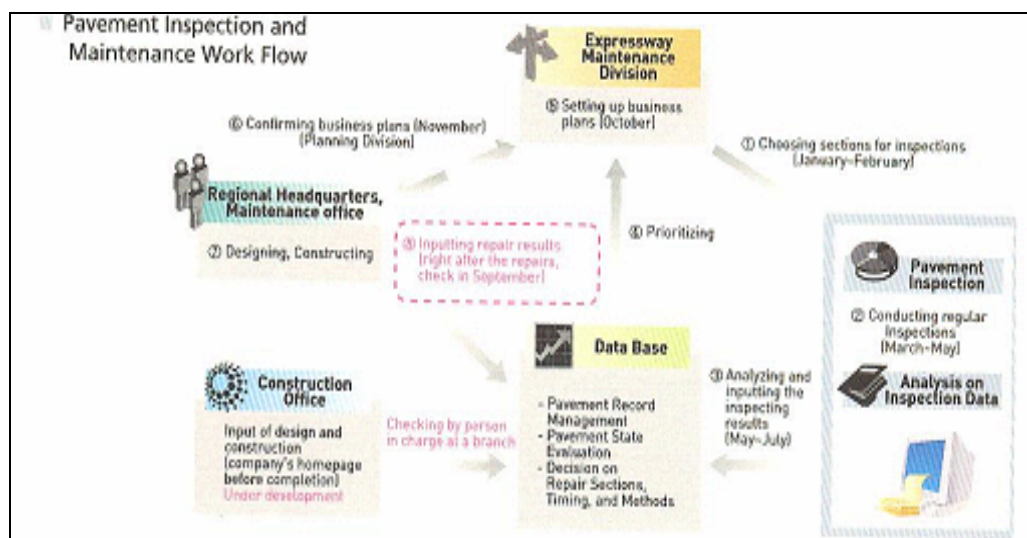
■ HBMS (HIGHWAY BRIDGE MANAGEMENT SYSTEM)

The Highway Bridge Management System refers to the comprehensive information system operated to manage bridges in a more systematic and effective way by storing basic data about bridges, estimating the current situation and expected life span through safety inspections, determining effective ways to repair and maintain old bridges, building a network for information exchanges and allotting budgets to be executed.



■ HPMS (HIGHWAY PAVEMENT MANAGEMENT SYSTEM)

The Highway Bridge Pavement System manages the current status of pavements such as pavement section, the results of repairs, etc., collects data through pavement inspection and analysis using automatic machines and supports the decision-making process by setting priorities and estimating repair timing. Additionally, it plays an important role in evaluating efficiency and legitimacy of budget execution, assessing various pavement methods and selecting the best method.



5.3.5 PRIVATE INVESTMENT PROJECT MANAGEMENT.

Using a lot of skills and experiences in executing large-scale expressway projects, we have participated in 10 private investment projects in Korea for 15 years. We have carried out project management, maintenance and traffic management in these projects. As for a project, we have offered Independent Project Administration (banks) consulting services such as project feasibility analysis, legitimacy of the construction and monitoring of construction process. When the project starts, we provided private firms with technologies and experiences about planning, approvals, design, construction and management of the project according to the agreement with them. After completing the project, we build and manage systematic and effective expressway networks to enhance public functions of comprehensive operation and maintenance. We are entitled to invest in road-related private projects in other countries as well.

6. Future Strategies

6.1 OUR GOAL

Our corporate goal is to become a global leading road company, providing top-quality expressway services to the world by building upon our assets and expertise.

6.2 FUTURE STRATEGIES IN A OVERSEAS BUSINESS AREA

We have set future strategies to be executed gradually according to changes in Construction Markets at home and abroad.

■ Phase 1 [2009-2010]

In this phase, we are focusing on technical consulting projects without financial risk, stocking up experiences on overseas projects.

■ Phase 2 [2011-2013]

In this phase, we are going to revitalize technical consulting projects and take part in a private investment projects while pushing into more countries and more varied business areas.

■ Phase 3 [2014-2015]

In this phase, we will focus our ability on private investment projects.



Changing the map of Korean life, Expressways have led us to affluence and prosperity. Korea Expressway Corporation has established standards for roads in Korea and also has always provided the central axis and foundations for national economic development. Now, KEC is preparing for another take-off, moving out toward the world.